Abstracts

EP234/#215 PREDICTORS FOR CLAVIEN-DINDO CLASSIFICATION GRADE ≥ IIIA AFTER CYTOREDUCTIVE SURGERY FOR ADVANCED STAGE OVARIAN CANCER: A PROSPECTIVE COHORT STUDY

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Objectives The study aimed to evaluate factors associated with 30-day severe post-operative morbidity classified by Clavien-Dindo classification (CDC) ≥ grade IIIA and time to adjuvant chemotherapy (TTC) after cytoreductive surgery for primary advanced stage epithelial ovarian cancer (AEOC).

Methods Patients undergoing cytoreductive surgery for primary AEOC were enrolled from February 2018 to September 2020. Post-operative complications were graded according to the CDC. Logistic regression analysis was used to evaluate risk predicting CDC grade ≥ IIIA and TTC > 42 days.

Results Three hundred eligible patients were included for analysis. CDC grade ≥ IIIA occurred in 51 (17%) patients. In multivariable analysis, age (p=0.019), cardiovascular comorbidity (p=0.011), diaphragmatic surgery (p=0.001), intraoperative urinary tract injury (p=0.008) and other visceral injury e.g., pancreas, stomach, liver and spleen (p=0.011) were factors related to CDC grade ≥ IIIA. Thirty percentage of patients received chemotherapy > 42 days. Median TTC in patients with CDC grade ≥ IIIA was 39 (29–50) days while median TTC in patients without CDC grade ≥ IIIA was 33 (25–41) days, p=0.008. Patients with the following factors: WHO grade ≥2 (p=0.043), presence of ascites (p=0.012), para-aortic lymph node resection (p=0.001), intra-operative bowel injury (p=0.007), other visceral injury (p=0.008), pneumothorax (p=0.030), post-operative visceral organ leakage (p=0.012), delirium (p=0.034) and pneumonia (p=0.001) had a higher adjusted odds of developing TTC >42 days.

Conclusions Patients with CDC grade ≥ IIIA had a significant longer median TTC compared to those without CDC grade ≥ IIIA. Intra-operative visceral injury was the significant factor related to both severe complications and delayed time to chemotherapy.

EP235/#216 COMPARISON OF THE COMPREHENSIVE COMPLICATION INDEX AND CLAVIEN-DINDO CLASSIFICATION IN PREDICTING POST-OPERATIVE OUTCOMES FOLLOWING CYTOREDUCTIVE SURGERY IN OVARIAN CANCER

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Objectives The comprehensive complication index (CCI) is an instrument for reporting the cumulative post-operative complications while Clavien-Dindo classification (CDC) reports the most serious event. This study aims to validate the CCI for advanced stage epithelial ovarian cancer (AEOC) after cytoreductive surgery and compare its diagnostic performance with CDC.

Methods Complications after cytoreductive surgery for primary AEOC were classified using CDC and CCI. Logistic regression was used to determine the association between CDC and CCI with prolonged length of hospital stays (PLOS), intensive care unit (ICU) admission, readmission and time to chemotherapy (TTC). Area under the receiver operating characteristic (AUC) was used to establish the diagnostic performance of each classification.

Results Totally, 300 patients were included from February 2018 to September 2020. Thirty days post-operative complications occurred in 146 patients of whom 30% had multiple complications (range 2–6 events). Severe complications were diagnosed in 17% of patients when using the CDC while the percentage increased to 30% when using the CCI. In regression analysis, both CDC and CCI presented as predictors for PLOS (>9 days), TTC >42 days, ICU admission and readmission (all p <0.05). AUC demonstrated that CCI (0.843, 95% CI 0.79–0.90) performed better than CDC (0.813, 95% CI 0.75–0.88) for PLOS. Both systems equally showed a fair diagnostic performance for TTC >42 days (both AUC 0.630, 95%CI 0.55–0.71).

Conclusions The cumulative score of CCI had shown a superior diagnostic performance for PLOS than CDC in AEOC. The use of the CCI should be considered in other gynecological evaluations.

EP236/#587 PROTEOMIC PROFILING OF PROTEIN SIGNATURES ASSOCIATED WITH RESPONSE TO PARP INHIBITOR MAINTENANCE THERAPY IN OVARIAN CANCER

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Objectives Despite the substantial clinical use of PARP inhibitors, the development of resistance contributes to mortality. Thus, we aimed to discover protein signatures associated with response to PARP inhibitors in high-grade serous ovarian carcinoma (HGSOC) through proteomic analysis.

Methods We conducted an in-depth proteomic analysis of FFPE tissue samples of patients with platinum-sensitive recurrent HGSOC who received PARP inhibitor maintenance therapy (n=24). The proteomic strategy was as follows: removal of paraffin, isolation of tumor via examination by a pathologist, mass tags based labeling, off-line high-pH peptide fractionation, and high-resolution quadrupole Orbitrap LC-MS/MS. Patients who discontinued PARP inhibitors due to disease progression within nine months were assigned to the poor prognosis group (n=9). Dysregulated proteins between the good and poor response groups were investigated.

Results In total, 7,825 proteins were quantified. There were 56 proteins significantly expressed in the good response
group, whereas 131 proteins were in the poor response group. Proteins significantly upregulated in the good response group included ribosomal- and infection-related proteins. Proteins significantly upregulated in the poor response group included extracellular matrix receptor- and coagulation-related proteins. To identify a protein signature that stratifies good and poor responders to PARP inhibitors, we performed four feature selection algorithms with leave-one-out cross-validation to improve the accuracy. High expression of Proteins A and B were associated with worse and better progression-free survival, respectively.

Conclusions We successfully identified protein signatures associated with response to PARP inhibitors. This study was the most extensive proteomic analysis to predict PARP inhibitor response in ovarian cancer.

**Results**

**Ep237/#590 ROLE OF SECONDARY CYTOREDUCTIVE SURGERY AND BEVACIZUMAB IN PLATINUM-SENSITIVE RECURRENT OVARIAN CLEAR CELL CARCINOMA**

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**Objectives**

Ovarian clear cell carcinoma (OCCC) is associated with a higher recurrence rate and tends to develop chemoresistance. Currently, optimal management of recurrent OCCC has not yet been established. Thus, we aimed to investigate survival according to the treatment methods in platinum-sensitive relapsed OCCC.

**Methods**

From five institutions, we identified OCCC patients with platinum-sensitive recurrence who received secondary treatment between 2007 and 2021. Patient characteristics and survival outcomes were compared according to the use of bevacizumab (BEV) during second-line chemotherapy and secondary cytoreductive surgery (CRS).

**Results**

In total, 138 patients were included. The BEV group (n=36) showed improved progression-free survival (PFS; median, 15.4 vs. 7.5 months; P=0.042) and overall survival (OS; P=0.043) compared to the non-BEV group (n=102). In multivariate analyses, BEV was identified as an independent prognostic factor for PFS (aHR, 0.571; 95% CI, 0.354–0.921; P=0.022) and OS (aHR, 0.435; 95% CI, 0.195–0.970; P=0.042). The secondary CRS group (n=42) had multi-site metastasis (P<0.001) at recurrence less frequently than the no surgery group (n=96). The secondary CRS group showed significantly better PFS (median, 33.7 vs. 7.2 months; P<0.001) and OS (P<0.001). Secondary CRS was associated with a significantly improved PFS (aHR, 0.297; 95% CI, 0.183–0.481; P<0.001) and OS (aHR, 0.276; 95% CI, 0.133–0.576; P=0.001). The BEV and non-BEV groups showed similar PFS and OS among the patients who underwent secondary CRS. The BEV group showed improved PFS and OS among patients who did not undergo surgery.

**Conclusions**

Our study results demonstrate the survival benefits of BEV and secondary CRS in patients with platinum-sensitive relapsed OCCC.

**Ep238/#618 HIGH FKBPL EXPRESSION CONTRIBUTES TO CELL PROLIFERATION BY REGULATING THE CELL CYCLE AND AFFECTS PROGNOSIS IN OVARIAN CANCER PATIENTS**

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**Objectives**

About 70% of ovarian cancer patients experience recurrence, and resistance is induced by repeated chemotherapy. So, research for novel therapeutic approach is urgently needed. FK506-binding protein like (FKBPL) is involved in immune & inflammatory responses, and signaling pathways regulating various cancers. However, the role of FKBPL in epithelial ovarian cancer (EOC) has not been elucidated.

**Methods**

Immunohistochemical analysis of FKBPL expression using tissue microarray was performed on 398 epithelial ovarian tissues (186 cancer, 49 borderline, 84 benign, and 79 normal tissues). The clinicopathological parameters and those data were compared. It was also performed in vitro to investigate the functional role of FKBPL in ovarian cancer cell lines.

**Results**

The expression of FKBPL in ovarian cancer tissue was upregulated than other epithelial tissues (all p < 0.001). Importantly, FKBPL expression was associated with stage, tumor grade, cell type, and chemotherapy response (p ≤ 0.05). Multivariate survival analysis showed that overexpression of FKBPL was associated with poor overall survival (HR = 3.58; 95% CI: 1.87–6.84, p < 0.001) and disease-free survival (HR = 3.1; 95% CI: 1.97–4.87, p < 0.001). In-vitro results also showed that knockdown of FKBPL was associated with decreased cell proliferation, inhibited colony formation, and induction of G1 phase cell cycle arrest, supporting an oncogenic role of FKBPL in ovarian cancer cell lines.

**Conclusions**

Overexpression of FKBPL could be a significant biomarker for predicting poor survival after chemotherapy. In addition, future research that reveals the mechanism of FKBPL on the cancer cell cycle will lead to the development of new anticancer drugs.

**Ep239/#800 PROGNOSTIC ANALYSIS OF SPLENIC METASTASIS IN ADVANCED OVARIAN CANCER: DOES PARENCHYMAL METASTASIS MATTER?**

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**Objectives**

Splenic metastasis is a part of peritoneal seeding with multi-organ involvement in advanced ovarian cancer. Although splenic parenchymal lesion is classified into FIGO stage IVB disease, it is usually surgically resectable. The aim of this study was to evaluate the patterns and prognostic value of splenic parenchymal metastasis in advanced ovarian cancer.